
Marketing DDGS

Ryan Sauer
Domestic Marketing Manager
Hawkeye Gold, LLC

Process Technologies

3 main process technologies currently used for ethanol production:

- Fagen ICM
- Poet (Broin)
- Delta T

Other “add on” technologies are being looked at including:

- Front end fractionalization
- Back end oil spin off

Future Technologies

Bio mass ethanol production

What types of co products will result from this?

Types of Co Products

Dried Distillers Grains with solubles (DDGS)

- 10% moistures
- 27% protein
- 10% fat
- 8% fiber

Modified Distillers Grains with Solubles (MDGS)

- 50% moistures
- 15% protein
- 6% fat
- 4% fiber

Wet Distillers Grains (WDGS)

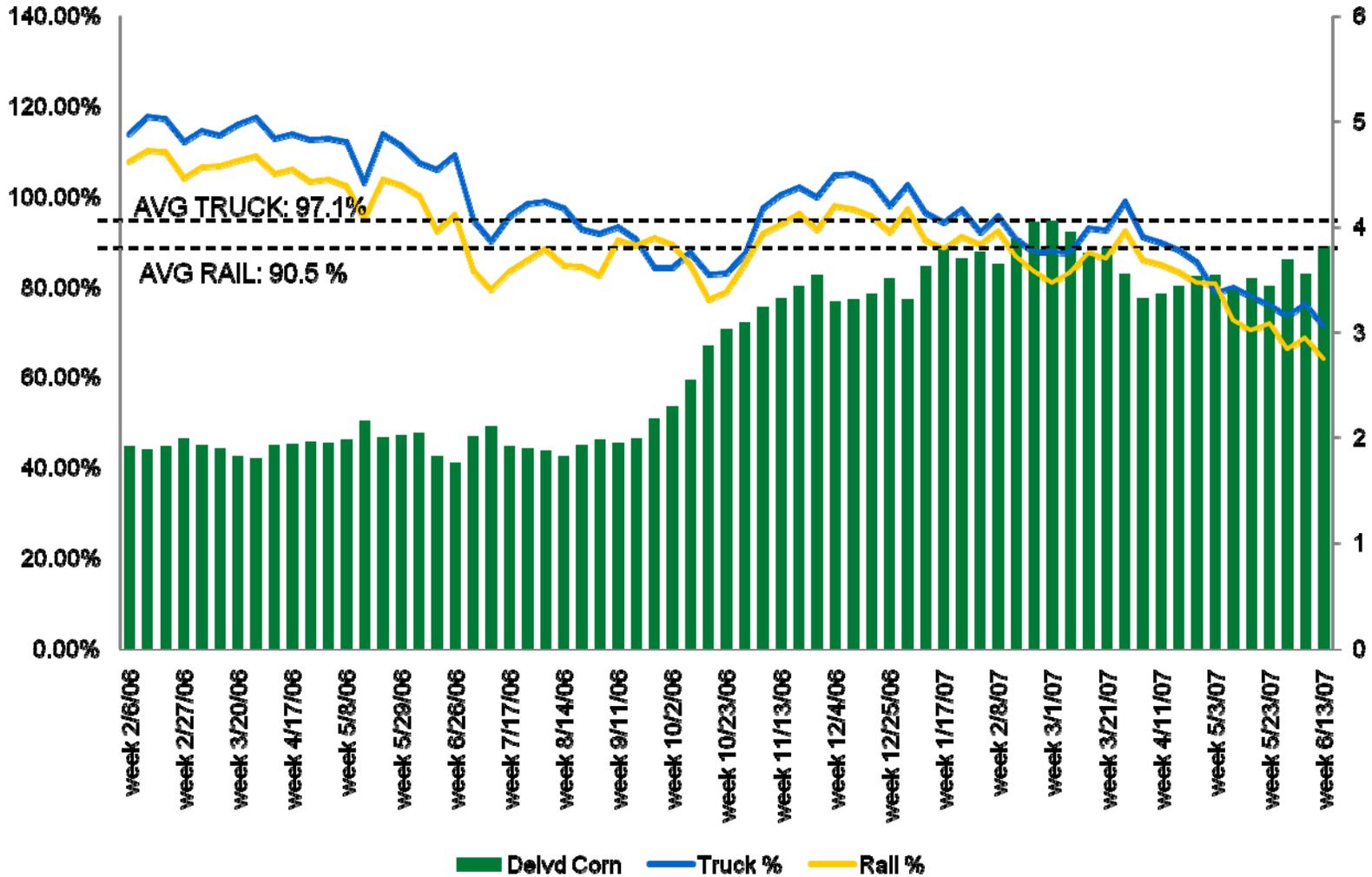
70% moisture

9% protein

4% fat

2% fiber

Historical corn-DDGS relationship



Co Products from Ethanol Process

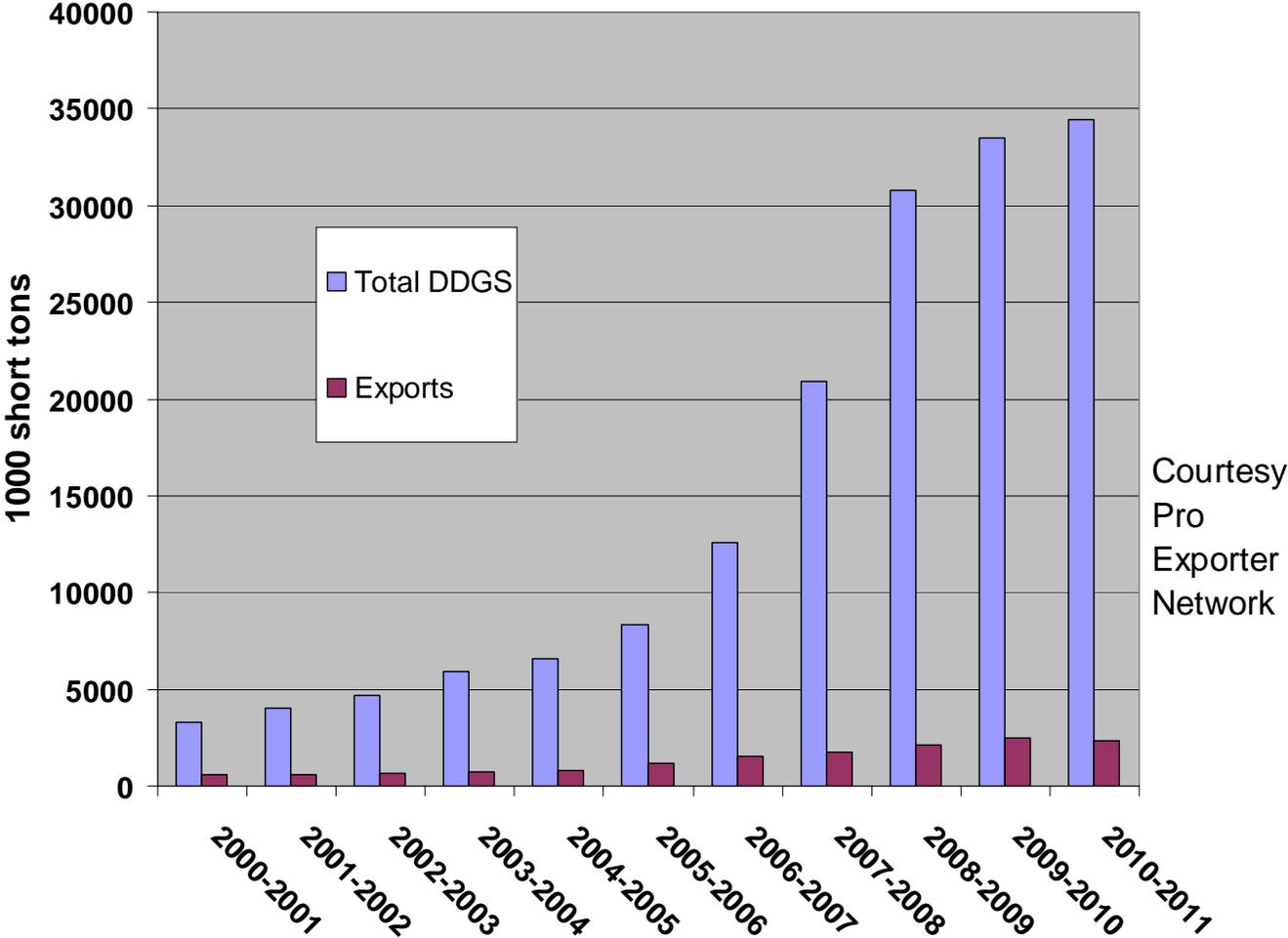
- The standard DDGS produced from the ethanol process is concentrated 3 fold for nutrients vs that of corn.
- Swine producers find value in feeding distillers usually around a 10% inclusion rate. This will displace about 150 lbs of corn and 50 lbs of soybean meal in the diets
- Cattle can utilize distillers up to 40% of the diet and is an excellent source of energy. Sulfur can be a limiting factor to reaching the 40% level of going higher than 40%.
- The poultry market can use up to 10% of DDGS in the diets, but has yet to utilize DDGS widespread for various reasons

Supply overview

- With the current ethanol plants in production in Iowa, this equates to about 4.8 mmt of DDGS production annually in Iowa.
- With the plants expected to come into production over the next few years in Iowa, this equates to about 4.5 mmt of DDGS production
- US DDGS production is expected to be around 32 mmt, so Iowa will be about a third of total production
- Very important to continue to develop markets for the product
 - Japan
 - Asia
 - EU
 - Mexico

Marketing DDGS

US DDGS Production (dry weight) including Exports



Courtesy
Pro
Exporter
Network

Potential U.S. DDGS Demand – Cattle

- Dairy 6,288 mmt
- Cattle 15,443 mmt
- Beef 9,040 mmt
- Total 30,771 mmt

Assumptions:

- Dairy: 10% inclusion rate, 1533 lbs/animal/yr., 9.04 mln head
- Cattle: 40% inclusion rate, 1320 lbs/animal, 25.79 mln head
- Beef: 600 lbs/animal/yr., 33.3 mln head

Feeding recommendations provided by Dr. Harold Tilstra, LOL Feed

Potential U.S. DDGS Demand - Swine

- Slaughter 2,468 mmt
- Breeding 415 mmt
- Total 2,883 mmt

Assumptions:

Slaughter: 10% inclusion rate, 55 lbs/animal, 98.919 mln head

Breeding: 10 % inclusion rate, 150 lbs/animal/yr, 6.09 mln head

Feeding recommendations provided by Dr. Harold Tilstra, LOL Feed

Potential U.S. DDGS Demand – Poultry

- Broilers 4,016 mmt
- Layers 1,382 mmt
- Turkeys 232 mmt
- Total 5,630 mmt

Assumptions:

Broilers: 10% inclusion, 1 lb/bird, 8.853 bln birds

Layers: 10% inclusion, 8.7 lbs/bird/yr., 350 mln birds

Turkeys: 10% inclusion, 2 lbs/bird, 256.2 mln birds

Feeding recommendations provided by Dr. Harold Tilstra, LOL Feed

Demand Potential Summary

- Total US Demand potential is 39.3 mmt
- Potential US supply equals 32 mmt.
- Potential Demand exceeds potential US supply – but not by much
- As ethanol industry grows, it is vital we will look at other DDGS markets, including:
 - SE U.S.
 - SE Asia
 - Mexico
 - Canada
 - Other alternative DDGS uses including food use, fertilizer use, and DDGS as energy source
- Each market presents its own challenges and opportunities
- Also need to explore fractionalization technologies

Demand Potential Points

SE US

- Corn is more expensive and could possibly be less accessible
- Consistency of supply can be problematic
- Need to educate consumer more and be willing to adapt to meet their expectations

SE Asia

- Volume has increased 5 times vs. that of 04-05
- Container business is a cheap form of transportation vs. vessel freight
- With a trade deficit, this helps keep container cost cheap

Mexico

- Volume jumped almost 3 times vs. that of 04-05
- Big demand in Mexico for the golden DDGS
- Huge demand potential this year and beyond

Demand Potential Points

Alternative uses

- Food use
- Fertilizer use
 - Current conversion of the protein, phosphorous, and potassium in DDGS converts to about a 4-1-1 for N-P-K values – which is low.
- Fuel use
 - Studies show burning DDGS produces about 5,000 btu/lb
 - Equals 3.2 mmbtu for a typical 100 million gallon facility
 - At \$8.50 nat gas, equals \$27,200,000 – equivalent of \$85/ton DDGS.
 - 100 million gallon facility uses about 3.4 mmbtu per year if drying all co products to DDGS
- Others??

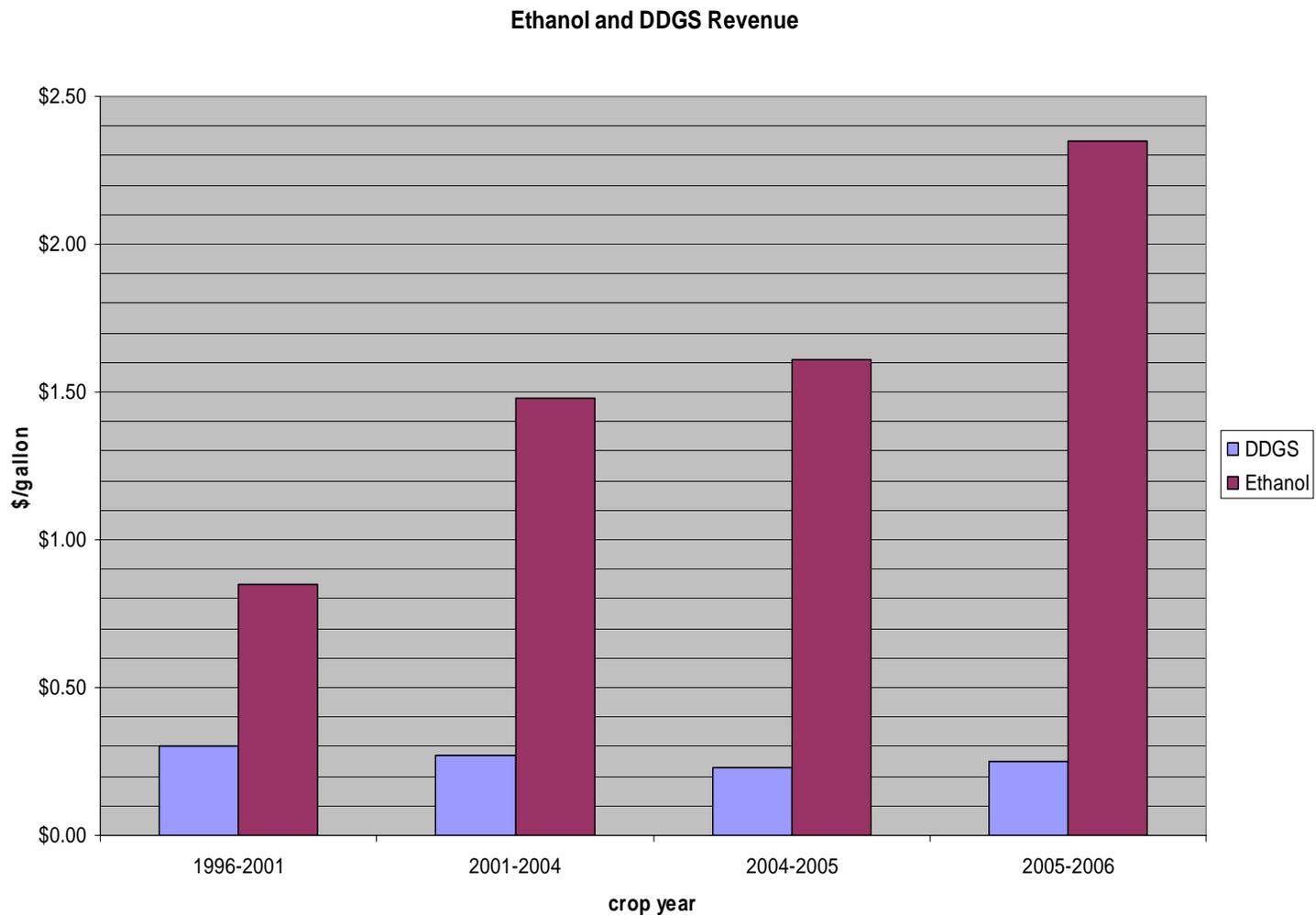
Marketing DDGS – Opportunities with DDGS

Before we can truly realize all the potential demand across the US and around the world, we need to understand the opportunities with DDGS.

Opportunities

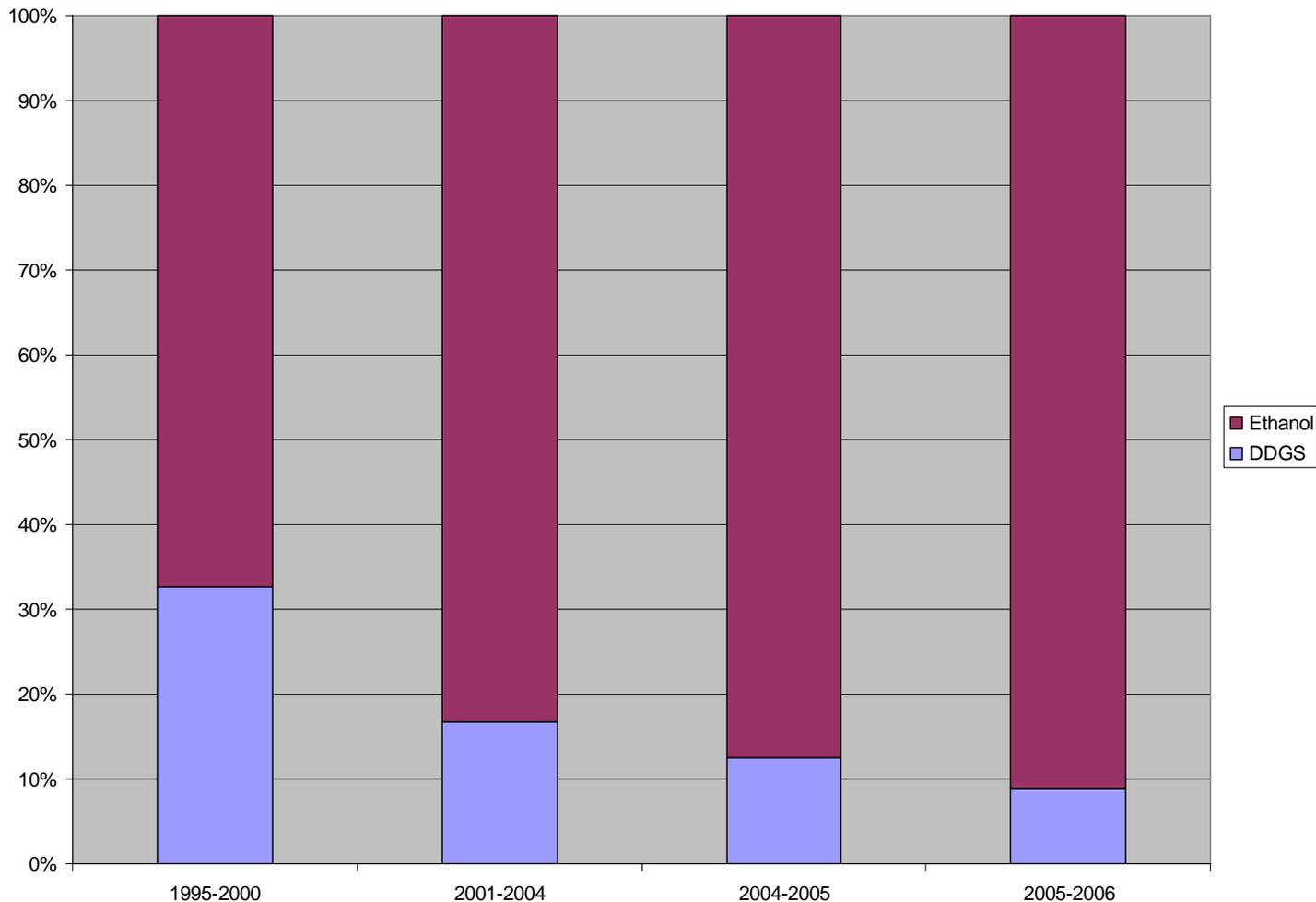
- Lack of standardized testing
- No quality standard
- Inconsistent product
- Flowability problems
- Viewed as a by-product

Marketing DDGS – Ethanol/DDGS Margins



Marketing DDGS – Revenue Percentage

DDGS Percentage of Total Revenue



Summary

- Ethanol industry will continue to grow and so will the importance of a sound marketing program for DDGS
- There is enough demand for DDGS – but in order to reach that potential, more R&D needs to be done and more education by both the supplier and end user needs to be conducted
- Exploring new markets and other alternative uses for DDGS will play a vital role in helping DDGS maintain their relative value
- Hydromilling technologies will help increase DDGS nutrient value
- Expanding into cellulosic ethanol production will help limit the production of DDGS we produce today